

What is claimed is:

1. A method for fabricating a transistor of a semiconductor device comprising the steps of:

5 forming a sacrificial layer on a substrate;
forming a source/drain region in the substrate by performing a first ion implantation using the sacrificial layer as a mask;

10 forming a barrier layer over the substrate with the sacrificial layer;

removing a portion of the sacrificial layer to form an opening through which a portion of the substrate is exposed;

15 performing a second ion implantation using the opening as a mask to implant ions for adjustment of a threshold voltage of the substrate;

forming a gate electrode on the substrate exposed through the opening; and

20 performing a third ion implantation to adjust doping concentration in the gate electrode.

2. The method as defined by claim 1, wherein the sacrificial layer is formed of silicon oxide or silicon nitride.

25 3. The method as defined by claim 1, wherein the barrier layer is formed of silicon nitride and has a thickness between 300Å and 1,000Å.